

## AMENDMENTS

Please amend the claims as follows.

1. **(Currently Amended)** An apparatus for generating a mist comprising:
  - a conduit having an exit;
  - a transport nozzle in fluid communication with the conduit, the transport nozzle being adapted to ~~spray~~ introduce a transport fluid;
  - a working nozzle positioned adjacent to the transport nozzle, the working nozzle being adapted to ~~spray~~ introduce a working fluid;
  - wherein the transport nozzle includes a convergent-divergent portion therein
  - wherein the transport nozzle has an inner surface and an outer surface, each being substantially frustoconical in shape; and
  - wherein the transport nozzle is shaped such that the transport fluid ~~sprayed~~ introduced from the transport nozzle has a divergent flow pattern.
2. (Previously Presented) The apparatus of claim 1, wherein the working nozzle substantially circumscribes the conduit.
3. (Previously Presented) The apparatus of claim 1, wherein an angular orientation and internal geometry of the transport and working nozzles are such that a substantial portion of the working fluid droplets have a size that is less than 50  $\mu\text{m}$ .
4. (Previously Presented) The apparatus of claim 1, wherein the conduit comprises a mixing chamber, wherein the transport nozzle is adapted to introduce the transport fluid into the mixing chamber and the working nozzle is adapted to introduce the working fluid into the mixing chamber.
5. (Previously Presented) The apparatus of claim 4, wherein the mixing chamber includes a diverging portion.

6. (Previously Presented) The apparatus of claim 1, wherein the transport and working nozzles have a relative angular orientation such that in use the working fluid is atomized and a dispersed droplet flow regime of droplets having a substantially uniform size is created by the introduction of transport fluid flow from the transport nozzle into working fluid flow from the working nozzle and the subsequent shearing of the working fluid by the transport fluid.
7. (Previously Presented) The apparatus of claim 1, wherein the working nozzle is intermediate the transport nozzle and the exit.
8. (Previously Presented) The apparatus of claim 1, wherein the inner surface of the transport nozzle is formed by an outer surface of a protrusion, wherein the protrusion is disposed within the conduit.
9. (Previously Presented) The apparatus of claim 1, wherein the apparatus includes a transport plenum arranged inside the conduit and proximal to the transport nozzle.
10. (Previously Presented) The apparatus of claim 9, wherein the transport plenum and the transport nozzle are arranged axially in the apparatus.
11. (Previously Presented) The apparatus of claim 9, further comprising a transport fluid inlet wherein the transport fluid inlet, transport plenum, and the transport nozzle are arranged axially in the apparatus.
12. (Previously Presented) The apparatus of claim 1, wherein the transport nozzle is shaped with a convergent-divergent profile to provide supersonic flow of the transport fluid which flows therethrough.
13. (Canceled)
14. (Previously Presented) The apparatus of claim 1, further comprising a working fluid plenum that substantially circumscribes the conduit.

15. **(Currently Amended)** The apparatus of claim 1, wherein the working nozzle is shaped such that working fluid ~~sprayed~~ introduced from the working nozzle has a convergent flow pattern.

16. (Original) The apparatus of claim 15, wherein the working nozzle has inner and outer surfaces each being substantially frustoconical in shape.

17. (Previously Presented) The apparatus of claim 1 wherein the working nozzle substantially circumscribes the transport nozzle.

18. (Previously Presented) The apparatus of claim 14 wherein the working fluid plenum substantially circumscribes the transport nozzle.

19. (Previously Presented) The apparatus of claim 8 wherein the working nozzle substantially circumscribes the protrusion.

20. (Previously Presented) The apparatus of claim 8 wherein the working fluid plenum substantially circumscribes the protrusion.

21. (Previously Presented) The apparatus of claim 1, wherein the internal geometry of the transport nozzles has an exit area to throat area ratio, in the range of 1.75 to 15.

22. (Previously Presented) The apparatus of claim 1, wherein the transport nozzle has an included angle alpha ( $\alpha$ ) that is equal to or less than 6 degrees.

23. (Previously Presented) The apparatus of claim 4, wherein the mixing chamber is closed upstream of the transport nozzle.

24. (Previously Presented) The apparatus of claim 1, wherein the transport nozzle has an included angle alpha ( $\alpha$ ) that is equal to or less than 12 degrees.

25 - 28. (Canceled)

29. (Previously Presented) A spray system comprising the apparatus of claim 1 and further including a steam generator and a water supply, wherein the transport fluid is steam and the working fluid is water.

30. (Previously Presented) A method of suppressing a fire comprising using the apparatus of claim 1 to spray water droplets on the fire.

31 - 51. (Canceled)

52. (Previously Presented) An apparatus for generating a mist comprising:

- a housing having a plurality of interior walls, at least one of the plurality of interior walls defining a passageway along a longitudinal center axis, the passageway having an inlet, a plenum adjacent to the inlet, and a portion adjacent to the plenum, the at least one of the plurality of interior walls being tapered outwardly with respect to the axis along the portion;

- a protrusion with a solid interior located proximate the portion, the protrusion having an outer surface tapered outwardly with respect to the axis;

- a transport nozzle defined between:

- the at least one of the plurality of interior walls tapered outwardly with respect to the axis along the portion, and

- the outer surface tapered outwardly of the protrusion;

- a working nozzle being defined by other of the plurality of interior walls of the housing, the working nozzle being coincident the transport nozzle so that a working fluid communicated to the working nozzle mixes with a transport fluid exiting the transport nozzle; and

- a working fluid inlet disposed along the housing in communication with the working nozzle.

53. (Previously Presented) The apparatus of claim 52 further comprising a chamber adjacent the portion wherein the transport nozzle exits into the chamber and the working nozzle exits into the chamber so that the working fluid communicated to the

working nozzle mixes in the chamber with the transport fluid exiting the transport nozzle.

54. (Previously Presented) An apparatus for generating a mist comprising:

- a first fluid passage having a first fluid inlet and a first fluid outlet; the first fluid passage defining a working nozzle with a convergent flow pattern;

- a second fluid passage having a second fluid inlet and a second fluid outlet;

- a protrusion located in the second fluid passage to define a transport nozzle with inner and outer surfaces substantially frustroconical in shape and having a divergent flow pattern.